What is claimed is:

1. A modified tertiapin peptide comprising SEQ ID NO:2.

2. A method of inhibiting activity of inward-rectifier potassium channels comprising administering to an animal a compound comprising a tertiapin-like α helix.

3. The method of claim 2 wherein the compound comprises tertiapin.

4. The method of claim 2 wherein the compound comprises SEQ ID NO:2.

5. A method of identifying compounds capable of inhibiting activity of inward-rectifier potassium channels comprising:

(a) administering a test compound to an animal or cell culture system;

(b) measuring activity of inward-rectifier potassium channels in the animal or cell culture system;

(c) and comparing the measured activity with a level of activity of the channels following administration of tertiapin or a modified tertiapin peptide of claim 1 to the animal or cell culture system, wherein a measured activity equal to or less than the levels of activity following administration of tertiapin or a modified tertiapin peptide of claim 1 is indicative of the test compound being an inhibitor.

6. A method of identifying compounds capable of inhibiting activity of inward-rectifier potassium channels comprising:

(a) administering detectably labeled tertiapin or modified tertiapin peptide of claim 1 to a cell culture system, purified inward rectifier potassium channels or an animal;

(b) administering a test compound to the cell culture, purified inward-rectifier potassium channels or animal;

(c) and detecting unbound labeled tertiapin or the modified tertiapin peptide of claim 1 wherein the presence of unbound labeled tertiapin or the modified tertiapin peptide of claim 1 is indicative of the test compound being an inhibitor.

7. A pharmaceutical composition comprising a compound having a tertiapin-like α helix and a pharmaceutically acceptable vehicle.

8. The pharmaceutical composition of claim 7 wherein the compound comprises SEQ ID NO:2.

9. A method of controlling insulin secretion in a mammal comprising administering to the mammal a pharmaceutical composition of claim 7.

10. A method of controlling cardiac rhythm and electrical conduction in a mammal comprising administering to the mammal a pharmaceutical composition of claim 7.

11. A method of inducing diuresis in a mammal comprising administering to the mammal a pharmaceutical composition of claim 7.

12. A method of modulating neurotransmissions in neurons of the nervous system of a mammal comprising administering to the mammal a pharmaceutical composition of claim 7.

13. A method for rational design of drugs targeted to inward-rectifier K^+ channels comprising:

(a) assessing distances of residues of tertiapin or SEQ

ID NO:2 critical to binding of tertiapin or SEQ ID NO:2 to an inward-rectifier K^+ channel;

(b) synthesizing a compound with residues at distance similar to those assess for tertiapin; and

(c) determining the ability of the compound to bind to inward rectifier K^+ channels.

14. A method for rational design of drugs targeted to inward-rectifier K^+ channels comprising:

(a) synthesizing a compound having a similar structure or amino acid sequence or amino acid composition to tertiapin; and

(b) determining the ability of the compound to bind to inward-rectifier K^+ channels.